

The following is the complete list of projects that Congresswoman Tsongas requested:

Commerce-Justice-Science

Project Name: Haverhill Police Radio Project

Organization: City of Haverhill Police Department

Amount Requested: \$347,265.95

Recipient Address:

City of Haverhill Police Department
40 Bailey Blvd.
Haverhill, MA 01830

Explanation of Request:

This project is a good use of taxpayer funds because the radios currently used by the Haverhill Police Department are not compliant with project 25 requirements: this poses a serious safety and operational deficiency in their public safety communications system not only on a local level, but on a national level. In the face of a national security threat, the Haverhill Police Department would be unfortunately unprepared in terms of responding to communication with the current radios they use. With new, project 25 compliant radios, the Haverhill Police Department will be ready for any threats to homeland security.

Project Name: Essex County Sheriff's Department Comprehensive Substance Abuse Education and Treatment Program

Organization: Essex County Sheriff's Department

Amount Requested: \$250,000

Recipient Address:

Essex County Sheriff's Department
20 Manning Avenue
Middleton, MA 01949

Explanation of Request: This project is a good use of taxpayer funds because it will lead to the reduction of drug use and abuse by teenagers. The reduction in drug use should correlate with a reduction in criminality among program participants, which will in turn reduce the burden on the police, court system, and the correctional system. After this program has been evaluated it will be available for replication by similar agencies throughout Massachusetts, New England, and nationally.

Project Name: Essex Regional Emergency Communications Center Records Management Software

Organization: Essex County Sheriff's Department

Amount Requested: \$250,000

Recipient Address:

Essex County Sheriff's Department
20 Manning Avenue
Middleton, MA 01949

Explanation of Request:

This is a good use of taxpayer funds because this project would establish a regional emergency communications center that would include enhanced 911 service and police, fire protection and emergency medical services dispatch for member communities. This software would actually save money by consolidating thirteen Public Safety Answering Points (PSAP) into one and would provide a more robust center of operations. The Records Management Software is critical to developing a comprehensive regional approach. The need for a robust operations center with the capacity to coordinate large-scale public safety events or disasters would be fulfilled by a Regional Operations Center. This was evidenced during the November 22, 2006 explosion in Danvers. The communications personnel did an exemplary job however the current infrastructure was overtaxed preventing dispatchers from making outgoing phone calls to request personnel and resources. Additional dispatch personnel were called back to work but there were only three dispatch consoles within the center. We anticipate that a future phase would be to establish a regional emergency operations center (disaster center) for the county that would conserve resources and limit casualties. This facility would be available for use by federal agencies.

Project Name: Big Friends Little Friends youth mentoring

Organization: Family Service, Inc.

Amount Requested: \$80,000

Recipient Address:

Family Service, Inc.
430 North Canal Street
Lawrence, MA 01840

Explanation of Request:

This project is a good use of taxpayer funds because Big Friends Little Friends will provide young people with role models for success who will help kids achieve their potential, do better in school and mature into productive members of the community. The Big Friends Little Friends program aligns with the Office of Juvenile Justice and Delinquency Prevention's priority goals to reduce juvenile delinquency, drug abuse, truancy, and other problem and high-risk behavior by providing direct one-on-one mentoring services to underserved youth populations. OJJDP has previously invested in mentoring programs, knowing that these interventions have proven effective in developing the positive potential of young people.

Project Name: The Lowell Police Department's Massachusetts Police Leadership Institute Program

Organization: Lowell Police Department

Amount Requested: \$100,000

Recipient Address:

Lowell Police Department
50 Arcand Drive
Lowell, MA 01852

Explanation of Request:

This project is a good use of taxpayer funds because many departments depend on the Lowell Police Department's Training Institute for their training needs. The LPD's Training Institute (MPLI) presently provides mandatory in-service training to 28 other departments. Over the

years, many departments have sent their staff members to MPLI. MPLI is conveniently located for the many mid-level law enforcement executives in the area. If the Training Institute is unable to provide this training, many local departments will be unable to send their staff to receive high quality training that can benefit their department and the citizens they serve. In the past the LPD has promoted MPLI locally. However, as many local training budgets have been significantly reduced, the LPD will focus on attracting participants from departments in the New England area. The LPD will work to devise a marketing campaign and will promote MPLI to ensure that participants are recruited from across New England. Previous topics covered at MPLI include Police Culture and Motivation, Police Discretion, Ethics and Leadership and Problem Solving: Lessons Learned. Each of the topics covered are relevant to police agencies regardless of size or location. Therefore, MPLI has the potential to benefit many departments.

Project Name: The Lowell Police Department's Problem-Oriented Policing Strategies (POPS) Project

Organization: Lowell Police Department

Amount Requested: \$150,000

Recipient Address:

Lowell Police Department
50 Arcand Drive
Lowell, MA 01852

Explanation of Request:

This project is a good use of taxpayer funds because the Lowell Police Department's experience with problem-oriented policing strategies is well known, in fact, a Harvard University study was published in *Criminology* (Volume 46, Issue 3) and was featured in the *Boston Globe* praising the Department's problem-oriented policing strategies program. While extensive research has been completed on these strategies in large cities, limited best practice research is available on the effect of these strategies on mid-sized cities, such as Lowell. Therefore, the LPD will continue to implement these strategies and evaluate their effectiveness. The evaluation data will be shared with mid-sized agencies so they can determine if these strategies will assist them to prevent crime in their communities.

Project Name: Sex Offender Registration Project

Organization: Lowell Police Department

Amount Requested: \$290,000

Recipient Address:

Lowell Police Department
50 Arcand Drive
Lowell, MA 01852

Explanation of Request:

This project is a good use of taxpayer funds because the Lowell Police Department's Sex Offender Registration program ensures the safety of all those that live, work and visit the City of Lowell. The program will help monitor and track all sex offenders that are required to register in Lowell and support the maintenance of a meticulous database of offenders; so that no violation will go unnoticed. In addition to registering offenders, the coordinator and the front desk

assistant will also work to comply with the new federal sex offender laws, which were passed as part of the Adam Walsh Child Protection and Safety Act of 2006. Without the efforts of these employees, it will be extremely difficult for the LPD to comply with the new regulations. Therefore, by supporting these individuals, the LPD will move closer to complying with the rules set forth by the Department of Justice's Office of Sex Offender Sentencing, Monitoring, Apprehending, Registering, and Tracking and the Adam Walsh Act.

Project Name: Northeast Coastal Monitoring Collaborative

Organization: Northeast Coastal Monitoring Collaborative

Amount Requested: \$1,840,000

Recipient Address:

Center for Coastal Studies
115 Bradford Street
Provincetown, MA

Explanation of Request: This project is a good use of taxpayer dollars because the information provided by this collaboration will be readily available to the public via the internet and interested groups will be able to use this valuable information for various research initiatives as well as to provide an understanding of the importance of maintaining a healthy coastline. Applied Analysis, Inc, located in Westford, MA, stands to greatly benefit from the work of this collaborative. AAI is a key member of the Northeast Coastal Monitoring Collaborative as the head technology partner. This project will allow the public to see and understand the effects of climate change on our coastline as well as identify nonpoint pollution sources, areas of focus for environmental action/restoration, mapping the littoral zone (coast, intertidal, embayments) as impacted by sea level rise pollution. The information provided by this initiative will help address similar environmental and coastal concerns throughout the United State's 12,383 miles of coastline.

Massachusetts has the longest shoreline of this collaborative. The technology provided by AAI will greatly enhance the ability to map coastal zones, focus on environmental restoration, identify nonpoint pollution sources and address other environmental concerns that have a negative impact on our communities.

Defense

Project Name: Targeted therapy for advanced melanoma

Organization: AlphaMed Inc.

Amount Requested: \$2,500,000

Recipient Address:

AlphaMed Inc.
20 Juniper Ridge Road
Acton, MA 01720

Explanation of Request: This project is a good use of taxpayer funds because funds will be used to complete preclinical tests and commence clinical trials for targeted therapy for advanced melanoma. Melanoma is a significant hazard to military personnel due to the many occupational

situations where careers of sun and ultraviolet radiation exposure contribute to increased incidence of this disease. Therapies for advanced melanoma are only briefly palliative and considerably toxic. This project will advance medical research and treatment in this field.

Project Name: Emissive and Resistive Thin Film Processing of Microchannel Plates for Gen III Night Vision Image Intensifiers

Organization: Arradiance

Amount Requested: \$1,000,000

Recipient Address:

Arradiance, Inc.
142 North Road
Sudbury, MA 01776

Explanation of Request: This project is a good use of taxpayer dollars because the technology has the potential to improve the cost, quality and life expectancy of night vision capabilities. Arradiance has developed active thin films, which hold the promise of revolutionizing microchannel plates (MCPs) and devices into which they are integrated, such as the image intensifier tubes used in night vision. These films possess specialized electrical properties that improve the functionality of state-of-the-art MCPs by significantly improving efficiency, noise, and lifetime performance. This will help us maintain the technological lead enjoyed by United States air and ground forces in critical low-light activities.

Project Name: Advanced Inspection Technology (Access Control)

Organization: AS&E

Amount Requested: \$5,000,000

Recipient Address:

AS&E
829 Middlesex Turnpike
Billerica, MA 01821

Explanation of Request: This request is a good use of taxpayer funds because it will enable the testing and evaluation of advanced technology to protect US Marine Corps facilities from explosives and nuclear threats through use of Z Portal security systems at Camps Pendleton and Lejeune. US military bases, including those operated by the US Marine Corps, are deemed vulnerable to security threats by terrorist organizations. The US Marine Corps is developing comprehensive measures to enhance security screening at base entry gates without a significant increase in manpower. The test and evaluation of the Z Portal technology will provide valuable information about the efficiency and effectiveness of the technology in consideration for deployment to all US Marine Corps.

Project Name: Software Reconfigurable Payload (SRP)

Organization: Assurance Technology Corporation

Amount Requested: \$2,000,000

Recipient Address:

Assurance Technology Corporation

84 South Street
Carlisle, MA 01741

Explanation of Request: This request is a good use of taxpayer funds because the Software Reconfigurable Payload will assist in the development of the FORCEnet transformational architecture by providing a reconfigurable C4/ISR package that will provide joint interoperability and net-centric operation support to Navy and Marines in airborne/UAV, space, undersea, and ground applications. FORCEnet is the operational construct and architectural framework for the US Navy which integrates personnel, information, networks, command and control, platforms and weapons into a networked, distributed combat force.

Project Name: Naval Flywheel Energy Storage System (FESS)

Organization: Beacon Power

Amount Requested: \$3,000,000

Recipient Address:

Beacon Power Corporation
65 Middlesex Road,
Tyngsboro, MA 01879

Explanation of Request: This project is a good use of taxpayer funds because the Naval Flywheel Energy Storage System would offer a more reliable and lower life-cycle cost energy storage module that would support one or more critical ship systems. The system would permit Single Generator Operation resulting in lower fuel costs, provide uninterrupted power to essential loads, and ensure ships loads are balanced, or provide a multi-function energy storage device serving one or more of these purposes. For civilian applications, this flywheel could greatly reduce the fuel consumption of ferries and other commercial vessels by allowing them to operate one gas turbine at optimum efficiency instead of using multiple engines at partial power.

Project Name: Affordable Robust Mid-Sized (ARMS) Unmanned Ground Vehicle

Organization: Black-I Robotics, Inc.

Amount Requested: \$4,000,000

Recipient Address:

Black-I Robotics, Inc.
141 Middlesex Road, Suite 4
Tyngsboro, MA 01879

Explanation of Request: This project is a good use of taxpayer funds because the research and testing it supports will result in the development of a new class of hybrid mid-sized Unmanned Ground Vehicles (UGV) filling a capability gap between small man-portable UGVs and large, expensive multi-ton UGVs. This will provide new life saving capabilities across a spectrum of military and homeland security applications, and it will do so at a lower cost than current UGVs.

Project Name: Integrated Vehicle Health Monitoring System

Organization: Curtiss-Wright Controls Embedded Computing

Amount Requested: \$3,300,000

Recipient Address:

Curtiss-Wright Controls Embedded Computing
30 Porter Road
Littleton, MA 01460

Explanation of Request: This project is a good use of taxpayer funds because the Army will benefit from the investment and knowledge regarding vehicle health monitoring currently available from the commercial automotive industry. By aligning the Army's vehicle health monitoring architecture to the commercial automotive industry standards, commercial-off-the-shelf equipment can be easily adapted to meet the requirements of tactical support vehicles. Introduction of an integrated Vehicle Health Monitoring solution, based on an open system electronics architecture leveraging commercial on-board diagnostic standards, will pave the way for significant reduction in cost, risk and complexity for maintenance concepts into Combat Support Systems. The funding will be used to leverage commercial on-board diagnostics standards into Ground Combat Support Systems through incorporating an Integrated Vehicle Health Monitoring System to support the early adoption of emerging Condition Based Maintenance capabilities.

Project Name: Advanced Steam Turbine

Organization: DRS Power Technology, Inc (DRS PTI)

Amount Requested: \$5,000,000

Recipient Address:

DRS Power Technology, Inc.
2 Fox Road
Hudson, MA 01749

Explanation of Request: This project is a good use of taxpayer funds because the Navy will benefit from cost reductions by having a qualified second source for steam turbine generators. The Navy must reduce the cost of current and future shipbuilding programs. This project will continue existing efforts by the Navy to develop steam turbine generators and reduce cost.

Project Name: Special Operations High Performance In-line Sniper Scope (HISS)

Organization: FLIR Systems

Amount Requested: \$5,000,000

Recipient Address:

FLIR Systems, Inc
25 Esquire Road
North Billerica, MA 01862

Explanation of Request: This project is a good use of taxpayer funds because HISS provides a significant tactical advantage to our military personnel in the field. HISS enables the sniper to scan a target area and identify certain targets that regular Image Intensified (I2) systems would not detect due to low illumination, enemy concealment, enemy body position, or smoky or foggy conditions. HISS will provide Special Operations Forces operators with the capability to observe the thermal signature of hidden threats that current head and weapon mounted I2 devices are unable to detect, which has saved lives on the battlefield. Special Operations Command has

listed this program as the #6 priority on their FY09 unfunded priorities list and additional funding is needed to get this equipment in the field as rapidly as possible.

Project Name: DB-110 on MQ-9

Organization: Goodrich ISR Systems

Amount Requested: \$5,000,000

Recipient Address:

Goodrich ISR Systems
5 Omni Way
Chelmsford, MA 01824

Explanation of Request: This project is a good use of taxpayer funds because it will provide a demonstration platform for the intelligence, surveillance and reconnaissance capabilities of the DB-110 sensor. The DB-110 is an ideal addition to the MQ-9 (Predator B) Unmanned Aircraft System and will provide long range broad area Intelligence, Surveillance, and Reconnaissance for military and homeland security operations. A DB-110 camera system on an MQ-9 will provide superior wide area/day-night surveillance, and beyond line of sight capabilities that will provide forces with essential actionable intelligence, critical for mission success.

Project Name: Ultra Low Phase Noise Oscillator

Organization: Hittite Microwave Corporation

Amount Requested: \$4,000,000

Recipient Address:

Hittite Microwave Corporation
20 Alpha Road
Chelmsford, MA 01824

Explanation of Request: The project is a good use of taxpayer funds because it will develop next-generation microwave oscillator technology having ultra-low phase noise within a miniature packaging volume, for integration within Army radars to enable improved capability for detection of small targets at long range. It will also provide the US Army with a domestic source for this crucial capability.

Project Name: Automated Fiber Optic Manufacturing Initiative

Organization: kSARIA

Amount Requested: \$5,000,000

Recipient Address:

kSARIA
439 South Union Street
Lawrence, MA 01843

Explanation of Request: This project is a good use of taxpayer funds because this program addresses the two main problems affecting larger scale deployment of fiber optic technology aboard naval ships: (1) Quality/ Reliability/ Cost and (2) Field Installation/ Field Maintenance. The program will address the issue of field installation, field repair, and maintenance by extracting the qualified technologies of the automated manufacturing line and inserting these

technologies and processes in small, portable, maintenance equipment that can be used by ship construction and ship's force personnel in the harsh shipboard environment. This will result in time and cost savings and quality improvement.

Project Name: Biometric Identity Management Applications (BIMA) Toolset

Organization: L-1 Identity Solutions/Viisage

Amount Requested: \$3,000,000

Recipient Address:

L-1 Identity Solutions/Viisage
296 Concord Road, 3rd Floor
Billerica, MA 01821

Explanation of Request: This request is a good use of taxpayer funds because this request responds to an urgent requirement by the US Marine Corps for a portable miniaturized biometrics device to be used for the enrollment and screening of foreign nationals and others in theaters of operation. It also responds to a primary requirement of the biometrics community to develop face and iris recognition-at-a-distance technology. The objectives of this effort are to improve the ease and efficiency of data collection and sharing, identity management, and the mobile identification and detection of targets of interest.

Project Name: Leveraging COTS mmW Sensors for Improved Warfighter Situational Awareness

Organization: M/A-COM

Amount Requested: \$3,700,000

Recipient Address:

M/A-COM
1001 Pawtucket Boulevard
Lowell, MA 01853

Explanation of Request: This request is a good use of taxpayer funds because supporting the development of this low-cost, highly valuable technology will provide needed advanced troop protection to the US men and women in Iraq and Afghanistan. Currently neither the driver nor the commanders of logistic convoys can see changes in the operating environment, making them both unable to effectively react to changing operational requirements. This lack of situational awareness compounds an already risky operating environment, creating more dangers for drivers. The requested funding will be used for research, development, testing and evaluation to migrate low-cost commercial millimeter wave (mmW) radar technology to combat vehicles to increase warfighter survivability through improved situational awareness.

Project Name: Composite Torpedo Homing Array

Organization: Materials Systems Inc.

Amount Requested: \$3,400,000

Recipient Address:

Materials Systems Inc.
543 Great Road

Littleton, MA 01460

Explanation of Request: This project is a good use of taxpayer funds because the project will provide cost reductions for the Navy by producing low cost torpedo composite sonar arrays. The funds will be used for Navy testing and evaluation of the arrays, and to establish manufacturing capacity as needed to meet Navy production requirements.

Project Name: National Advanced Optics Capability

Organization: Northrop Grumman Xinetics

Amount Requested: \$5,000,000

Recipient Address:

Northrop Grumman Xinetics
115 Jackson Rd
Devens, MA 01434

Explanation of Request: This project is a good use of taxpayer funds because this will support a national need for low cost, rapid, and lightweight mirror systems for Space, Air, and Ground applications, providing the US Army with critical mirror capabilities with schedule reductions, and 40x cost reductions. Our nation requires rapid, low cost response for space situational awareness and optical/infra-red /Non-Infrared observations, and current systems do not offer this response rate, nor required low costs. This project will ensure the nation grows critical capabilities for production leadership of low cost, lightweight, and very rapid optical systems.

Project Name: Next Generation Combat Identification-Friend or Foe

Organization: Performance Indicator, LLC

Amount Requested: \$2,900,000

Recipient Address:

Performance Indicator, LLC
116 John Street, 1st Floor
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because the Next Generation of Combat Identification will dramatically improve deficiencies in current Combat Identification technology. The ability to distinguish enemy, friendly, and unknown parties is absolutely vital in performing successful operations, and preventing tragic friendly fire incidents. Current target identification technologies have become obsolete and are being exploited by our enemies, posing a significant threat to our troops. This project will result in improved safety and force protection for our men and women in the military.

Project Name: Standoff Detection of Explosives and Explosive Devices

Organization: Physical Sciences Inc.

Amount Requested: \$4,200,000

Recipient Address:

Physical Sciences Inc.
20 New England Business Center
Andover, MA 01810

Explanation of Request: This request is a good use of taxpayer funds because it will develop the capability to detect IEDs at their source and would lead to the disruption of the entire IED supply chain. The funding will create a fieldable system for standoff explosives detection, test that technology in relevant scenarios, and enable its deployment in Afghanistan and Iraq as well as in domestic and international areas where IED threats are extant.

Project Name: Multi Climate Protection System (MCPS)

Organization: Polartec, LLC

Amount Requested: \$5,000,000

Recipient Address:

Polartec, LLC
46 Stafford Street
Lawrence, MA 01842

Explanation of Request: This request is a good use of taxpayer funds because the funds will be used to fill the requirement for the U.S. Navy for MCPS. This funding would provide warfighters with clothing to help them operate in cold weather environments. The total requirement is 21,500 systems; to date, the Navy has provided enough funding for fielding of approximately 10,000 of the required systems reaching approximately 30% of all deployed aircrews. The MCPS improves individual mobility, survivability and sustainability of military personnel in cold weather combat by incorporating the latest in textile technology. The Chief of Naval Operations places great importance on protecting Navy personnel and placed a high priority on the development of a Multi Climate Protection System that meets the needs of today's aircrews. Also, the manufacturer of these materials, Polartec, Inc. is one of the largest employers in the District and is located in an area that has experienced significant manufacturing job loss in recent years. This project is being developed in Lawrence.

Project Name: MEMS Demonstration Radar System (MEMS DRS)

Organization: Radant Technologies, Inc.

Amount Requested: \$3,000,000

Recipient Address:

Radant Technologies, Inc.
255 Hudson Rd.
Stow, MA 01775

Explanation of Request: This project is a good use of taxpayer funds because it will increase the situational awareness of our military personnel and give them the critically important capability to preemptively defend themselves, thus saving lives and preventing injuries. The funds will support completion of the Micro-Electrical Mechanical Systems (MEMS) Demonstration Radar System that has been shown to be much lower cost, lighter weight and consume lower power than current technology and will enable the integration of radar systems with elevated platforms. Such systems can then provide persistent Ground Moving Target Indicator surveillance at low cost and over broad areas. This technology is capable of countering insurgent operations including improvised explosive device tactics.

Project Name: Magnesium Diboride (MgB₂) Superconductors for Portable Imaging Applications

Organization: Specialty Materials

Amount Requested: \$3,000,000

Recipient Address:

Specialty Materials
1449 Middlesex Street
Lowell, MA 01851

Explanation of Request: This project is a good use of taxpayer funds because it will help the US Army develop processes and technology necessary to produce portable, low-cost Magnetic Resonance Imaging (MRI) machines that utilize MgB₂ superconductors. Critical factors in the design of future medical equipment for use on or near the battlefield are mobility and portability. Medical equipment, in order to be more effectively employed on the battlefield, needs to become increasingly smaller, lighter, faster responding, and simpler. Magnetic Resonance Imaging (MRI) use has increased dramatically in general medicine and is an especially valuable diagnostic tool for battlefield injuries such as traumatic brain injury (TBI). Current MRI units depend on very low temperature operation and the need for liquid helium, both of which make portability a problem. This project would support new technology that could increase mobility would be a significant breakthrough, enabling MRI use in ambulances and on the battlefield.

Project Name: Advanced Brush Technology

Organization: Superconducting Systems, Inc.

Amount Requested: \$5,000,000

Recipient Address:

Superconducting Systems, Inc.
5 Fortune Drive
Billerica, MA 01821

Explanation of Request: This project is a good use of taxpayer funds because advanced brushes will significantly reduce maintenance costs and increase the readiness of the Navy's fleet. A vast network of mechanical systems such as steering, power plant cooling, hydraulics, and water transfer are needed for the successful and efficient operation of a naval ship. These systems depend on the reliability of pumps, motors, and bearings, which all need brushes to power these subsystems. The brushes are the weakest link in these systems contributing to lack of a ship's availability and reduced reliability. This program will dramatically improve the quality of brushes thereby lowering cost and improving performance.

Project Name: Air National Guard Link 16 Ground Stations

Organization: Tactical Communications Group, LL

Amount Requested: \$3,900,000

Recipient Address:

Tactical Communications Group, LLC
900 Technology Park Drive
Billerica, MA 01821

Explanation of Request: This project is a good use of taxpayer funds because the Link 16 Ground Tactical Data Link Systems (GTS) enhances the Air National Guard's (ANG) mission effectiveness, increases training realism, saves fuel and maintenance costs, and enhances Homeland Security operational capabilities and support of the active Air Force. All US F-15 ANG (7) Wings will be capable of employing GTSs in their squadrons for more realistic operational training, mission planning and imagery insertion and reaching the same level of Link 16 experience as the active USAF forces. Further, this procurement will increase the interoperability of ANG aircraft and crews with the other Services and coalition partners.

Project Name: Tactical Metal Fabrication (TacFab) System

Organization: Thermo Fisher Scientific

Amount Requested: \$4,800,000

Recipient Address:

Thermo Fisher Scientific
900 Middlesex, Bldg 8
Billerica, MA 01821

Explanation of Request: This project is a good use of taxpayer funds because it provides a containerized, mobile foundry to the U.S. Army, allowing deployed forces to produce spare and replacement parts in the field: This cuts the order time from weeks or months to 24 hours. The Army uses its Rapid Manufacturing System (RMS) to provide deployed forces with critical spare and replacement parts to keep its tanks, helicopters, guns and other systems operating under the extreme wear and tear of battle. The system provides troops on the ground with parts that they would otherwise need to wait weeks or months for, if they were being ordered through the standard supply chain and shipped to the front. However, because the existing system does not include a mobile foundry, the system cannot address the need for cast parts, which make up a large percentage of needs. The Tactical Metal Fabrication (TacFab) System will provide a complementary capability to the RMS to cut the time required to produce parts by 90%.

Project Name: Moldable Ceramic Composite for Tactical Vehicle Protection

Organization: Triton Systems, Inc.

Amount Requested: \$2,000,000

Recipient Address:

Triton Systems, Inc.
200 Turnpike Road
Chelmsford, MA 01824

Explanation of Request: This project is a good use of taxpayer funds because it will provide a solution to improving protection for light and medium wheeled vehicles against unexpectedly severe small arms and IED's. Many vehicles survive attacks with damaged armor systems, but are otherwise mission-capable. According to the US Army, crews operating vehicles with compromised protection are concerned about safety, and may not be fully focused on the mission. These vehicles must often be shipped out-of-theater for complex armor repairs, using the OEM armor technology. The requested funding will be used to develop an easily moldable and adhesive material with superior resistance to ballistic penetration for both in theater up-armorings of complex vehicle shapes and in field armor repair of light tactical vehicles.

Project Name: Nanomanufacturing of Multifunctional Sensors

Organization: University of Massachusetts Lowell

Amount Requested: \$5,000,000

Recipient Address:

University of Massachusetts Lowell
One University Avenue
Lowell, MA 01854

Explanation of Request: This project is a good use of taxpayer funds because nanotechnology holds unprecedented promise in creating portable sensors that can rapidly apprise soldiers of battlefield environmental conditions and monitor the structural health of mechanical systems, such as bridges, aircraft, and body armor. This program is developing a suite of multifunctional sensors with high sensitivity and selectivity that ultimately will be integrated into single compact systems for the warfighter. This goal requires addressing multiple issues, such as nanoscale fabrication methods for preparation of the sensor substrate system comprised of detector arrays, functionalizing the detectors for desired specificity; and optimizing response and reliability. Based on existing expertise and ongoing research at both Army Research Laboratory and UMass Lowell, this funding will be used to develop two types of sensors:

- *“nanocanary/mini-mutt” biochemical sensors* for detecting biological and chemical threats and
- *“nano-skin” body armor detection system* for body armor, weapons, and vehicles.

The outcome of this UML research effort will be a series of manufacturable sensors for Army vehicle and personnel protection against biological and chemical warfare agents and structural mechanical damage.

Energy and Water

Project Name: 10 Megawatt Superconductor Wind Turbines

Organization: American Superconductor

Amount Requested: \$5,000,000

Recipient Address:

American Superconductor
64 Jackson Road
Devens, MA 01434

Explanation of Request: This project is a good use of taxpayer dollars because the research will lead to the development of the world's largest wind turbine. The economies of scale will allow wind farms to generate power with increased efficiency thereby decreasing cost. The Obama Administration has targeted wind energy to grow from today's 1% of generation to 20% by 2030, requiring an additional 290,000 Mega Watts (MW) of wind generation capacity (more than 13,000 MW per year). These aggressive policy targets will require a massive increase in wind turbine production to harness the Nation's land and offshore wind resources. Since a typical wind turbine in production today delivers only about 1.6 MW worth of generating capacity, more than 8,000 wind turbines would have to be produced each year for the next two decades to meet the Department of Energy's 20% target. Add to this the fact that most of the wind turbine

technology and production needed for this buildout currently resides in Europe and Asia -- not in America. Development of an American made and designed 10MW superconductor wind turbines would "leapfrog" current European wind technology and thrust America into the technology lead which, together with the expected surge in demand for wind capacity driven by the Administration's renewable energy goals, will create a new manufacturing industry for both domestic and export markets.

Project Name: North Village PV System

Organization: Chelmsford Housing Authority (CHA)

Amount Requested: \$600,000

Recipient Address:

Chelmsford Housing Authority (CHA)
10 Wilson Street
Chelmsford, MA 01824

Explanation of Request: This is a good use of taxpayer funds because the photovoltaic installation will convert solar energy into electricity for residents, supplying an estimated 30% to 40% of the building's entire electricity needs. This will decrease demand on the state's existing electricity grid, and reduce the potential consumption of power from non-renewable sources. This project is using the principals of smart growth into practice and it can serve as a model for projects around the country.

Project Name: Conductive, Transparent Coatings for Solar Cells

Organization: Eikos Inc.

Amount Requested: \$2,000,000

Recipient Address:

Eikos Inc.
2 Master Drive
Franklin, MA 02038

Explanation of Request: This project is a good use of taxpayer funds because transparent conductive coatings are a key component in the supply chain leading to clean, efficient solar power. Department of Energy initiatives to reverse America's growing dependence on foreign oil and reduce greenhouse emissions include development of commercially viable solar power sources. Solar cells have long held promise as an excellent source of renewable, clean energy. However, that promise has not yet been fulfilled, as today's PV cells are still relatively expensive, due to shortcoming in materials and process technology. Today PVs are fragile, hard to manufacture, too costly and utilize hazardous foreign materials that are derived from mining and energy intensive sources. This project will help a Littleton business owner overcome these challenges and allow solar cell technology to become economically viable and more broadly adopted as a clean source of energy for the nation.

Project Name: Global Seismographic Network Equipment Renewal

Organization: Incorporated Research Institutions for Seismology

Amount Requested: \$5,000,000

Recipient Address:

Incorporated Research Institutions for Seismology
1200 New York Avenue, NW, Suite 800
Washington, DC 20005

Explanation of Request: This project is a good use of taxpayer funds because the Global Seismographic Network is the essential national data collection system for tsunami warning, earthquake monitoring, geoscience research and education, and nuclear explosions monitoring. The primary piece of equipment to be purchased, the Q330HR data acquisition system, is manufactured by Quanterra, Inc., of Harvard, Massachusetts. The overall budget calls for 80 units, at a total cost of \$4,800,000 over three years. It is a multi-use, multi-agency system that operates under the terms of a peer-reviewed grant from the National Science Foundation. Without the GSN, it would be difficult, if not impossible, to achieve all of these goals.

Project Name: Lancaster Landfill Solar Facility

Organization: Town of Lancaster

Amount Requested: \$2,000,000

Recipient Address:

Town of Lancaster
695 Main Street, Suite#1
Lancaster, MA 01523

Explanation of Request: This project is a good use of taxpayer funds because it will enable the community to construct a solar facility that will be used to offset the municipalities' energy use for its public buildings, as well as stimulate the local economy through investment and job creation. This project will provide jobs for Computer Aided Design, electricians, and construction. It will provide clean renewable energy that the Town will use to offset its use of fossil fuel. This project will offset 878,000 lbs of CO2 emissions annually. It will produce approximately the same amount of electricity as 35,066.6 barrels of oil. It will reduce Nitrogen Oxide by 7,500 lbs over 30 years.

Project Name: CIGS Photovoltaic Turn-Key Equipment Development Solution

Organization: Veeco

Amount Requested: \$2,000,000

Recipient Address:

Veeco
70 Olde Canal Drive
Lowell, MA 01851

Explanation of Request: This project is a good use of taxpayer funds because it will support domestic research and development tool sets that manufacture CIGS advanced solar panels. The development of next generation manufacturing equipment will allow solar panel developers to manufacture efficient rigid solar panels and flexible solar panels that can literally be rolled up the same way one would roll up a piece of carpet. This project provides critical turn-key equipment for manufacturing low-cost, high-volume, and high efficient "thin film" solar panels called CIGS

(Copper, Indium, Gallium, (di)Selenide – these are elements that make up the building blocks of a high efficiency solar panel).

Financial Services

Project Name: Northeast Veterans Business Resource Center

Organization: Northeast Veterans Business Resource Center

Amount Requested: \$550,000

Recipient Address:

Northeast Veterans Business Resource Center
360 Merrimack St. 2nd Floor
Lawrence, MA 01843

Explanation of Request: This project is a good use of taxpayer funds because it empowers veterans to be self sufficient through self employment and small business creation. The Resource Center has helped thousands of veterans over the past 5 years and continues to make a significant difference in the lives of our returning uniformed service members. The Northeast Veterans Business Resource Center in Lawrence is one of only three Veterans Business Resource Centers in the country. The Resource Center works with the VA Compensated Work Therapy programs, Vocational Rehabilitation programs and veteran homeless shelters. It has assisted veterans in starting a variety of small businesses and micro enterprises ranging from starting or growing construction companies to IT companies. The Resource Center has relationships throughout the community to support veteran entrepreneurs and business development.

Labor-Health and Human Services-Education

Project Name: Technology for 21st Century Instruction

Organization: Andover Public Schools

Amount Requested: \$232,100

Recipient Address:

Andover Public Schools
36 Bartlet Street
Andover, MA 01810

Explanation of Request: This project is a good use of taxpayer funding because the Technology for 21st Century Education program serves as an effective demonstration of the value of integrating technology solutions across all grade levels K through 12. Educators need to increasingly share resources, and students need to expand their horizons and gain 21st Century skills in world languages and technology such as podcasting and distance education to be successful. This project can demonstrate how technology can leverage human resources as schools to prepare our students for the future.

Project Name: Best Buddies Massachusetts

Organization: Best Buddies Massachusetts

Amount Requested: \$49,399

Recipient Address:

Best Buddies Massachusetts
45 Bromfield Street, Third Floor
Boston, MA 02108

Explanation of Request: This project is a good use of taxpayer funds because the project is a proven model for enhancing the lives of children and adults with intellectual disabilities by providing opportunities for one-to-one friendships and integrated employment. Participation in Best Buddies results in: 1) the early development of acceptance of another's differences; 2) appreciation for another's assets; 3) enlightenment regarding the challenges and successes within one's unique lifestyle; 4) an increase in self-confidence and self-sufficiency; and 5) a greater understanding of the importance of social integration of people with intellectual disabilities in the community. The requested funds would support seven Best Buddies chapters located in middle schools and high schools in Andover, Methuen, Acton, Chelmsford, Maynard, Bolton and Lancaster.

Project Name: Radiation Therapy: Trilogy Stereotactic Accelerator

Organization: Holy Family Hospital

Amount Requested: \$500,000

Recipient Address:

Holy Family Hospital
70 East Street
Methuen, MA 01844

Explanation of Request: This request is a good use of taxpayer funds because funding will be used to purchase a state of the art linear accelerator, the *Trilogy*, to provide radiation therapy services to cancer patients. *Trilogy's* precision not only makes treatment possible, but it allows for the delivery of higher doses of radiation to smaller areas over a shorter period of time. Five or six weeks of daily radiation treatment is replaced with one week or five days of treatment. Treatment time is reduced, radiation exposure to vital structures is cut down, side effects are minimal, and outcomes are better. This technology will bring patients from out of state for their treatment. In some cases it could be their only option. Reducing treatment time also reduces overall cost to the healthcare system.

Project Name: Expansion of Lowell Community Health Center

Organization: Lowell Community Health Center

Amount Requested: \$4,000,000

Recipient Address:

Lowell Community Health Center
585 Merrimack Street
Lowell, MA 01854

Explanation of Request: This project is a good use of taxpayer funds because the expansion of Lowell Community Health Center will support the provision of primary medical and behavioral health care to 42,000, mostly low-income, children and adults; the retention of 292 jobs and the addition of 90 new permanent jobs as well as 135 construction jobs; and the revitalization of an

urban renewal area in historic downtown Lowell. Lowell Community Health Center has been nationally recognized for its expertise in providing culturally, linguistically competent care for limited English proficient individuals.

Project Name: Lowell General Hospital Facility Expansion Project

Organization: Lowell General Hospital

Amount Requested: \$2,000,000

Recipient Address:

Lowell General Hospital
295 Varnum Avenue
Lowell, Massachusetts 01854

Explanation of Request: This project is a good use of taxpayer funds because there will be a considerable enhancement in the comfort, privacy and safety of patient care at Lowell General Hospital. The current emergency room is undersized, and many inpatient rooms are semi-private. Through this expansion, the Hospital will upgrade its infrastructure, enhance parking and convenience for patients and provide the much needed physical space to accommodate the current and future volume of patients the Hospital serves. Patients will ultimately have improved access to care close to home, in their own community. The Hospital is a cost efficient regional provider of care with a shovel ready project which will help the institution meet the community's current and long term needs for health care, close to home. It will infuse a significant investment and jobs into Greater Lowell both during the two-year construction period and after completion of the project. The estimated project cost of \$130,000,000 will bring an additional \$72 million into the economy over a two year period making the total economic impact over \$200 million. The Hospital is the second largest employer in the City of Lowell which is experiencing unemployment rates exceeding 8% compared to a statewide average of 6.5%. The project will bring much needed jobs to the community.

Project Name: Middlesex Community College Dental Hygiene Clinic Modernization Project

Organization: Middlesex Community College

Amount Requested: \$900,000

Recipient Address:

Middlesex Community College
33 Kearney Square
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because the funding will be used to modernize the college's Dental Hygiene Clinic which provides critical free and low-cost dental services to uninsured seniors and children throughout the region. The funding would be used to upgrade antiquated training equipment for the students in the dental hygiene program which must be brought up to current industry standards to allow the college to continue to provide oral health care to the most vulnerable populations in our community.

A recent report by the Massachusetts Department of Dental Public Health found that accessing oral health care and dental services is a growing concern for low-income populations. In fact, screenings of children in inner cities consistently showed that an average of 40 – 50% of children

had untreated tooth decay and children with the most severe dental problems generally did not have insurance. The Dental Hygiene Clinic is a leader in addressing the poor oral health status of low-income children, adults and seniors and should serve as a model for the country's need to provide these preventive services to vulnerable populations.

Project Name: UMass Lowell Cooperative Education Program

Organization: University of Massachusetts Lowell

Amount Requested: \$1,200,000

Recipient Address:

University of Massachusetts Lowell
One University Avenue
Lowell, MA 01854

Explanation of Request: This project is a good use of taxpayer funds because the funding will be used to establish a cooperative education program at the University of Massachusetts Lowell for both the undergraduate and graduate level in areas that are vital to economic development. This project will enhance workforce training for industry and business, and provide students with the practical skills necessary to be competitive in the 21st century. Co-op students will strengthen collaboration between industry and university research and development by integrating faculty, students and other resources in projects that are critical to American competitiveness in a global economy. This project prepares students to be skilled workforce that will support American industry in the more integrated global economy.

Military Construction

Project Name: Design and construction of a Joint Force Headquarters Facility for the Massachusetts Army and Air National Guard

Organization: Massachusetts National Guard

Amount Requested: \$59,736,000

Recipient Address:

Massachusetts National Guard
50 Maple Street
Milford, MA 01757

Explanation of Request: This request is a good use of taxpayer funds because it will enable the Massachusetts National Guard to leave a building that does not meet operation needs and move to a facility that will allow it to meet its Joint Force Mission requirements on a secure military base that has the infrastructure to support our soldiers and airmen. Phase I is on the Army National Guard Future Years Defense Plan. Accelerating Phase II to coincide with Phase I is estimated to save taxpayers \$3.76 million. The construction of JFHQ on Hanscom AFB, on which so many Fifth District residents work and serve, gives the people of Massachusetts a centrally located modern headquarters facility to support its dual mission to respond to state emergencies and natural disasters and achieve its federal mission to provide relevant ready troops and equipment for federal military operations. The new headquarters will utilize green technology, improved physical and data security, superior bandwidth, military support services for soldiers and airmen, such as housing, medical care, commissary and Base exchange.

Transportation-Housing and Urban Development

Project Name: Hamilton Crossing

Organization: Architectural Heritage Foundation

Amount Requested: \$4,000,000

Recipient Address:

Hamilton Crossing
26 and 165 Jackson Street
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because the project will create both immediate and long term employment while protecting an historic property and revitalizing a community. The development will provide workforce housing in a “smart growth” transit-oriented location. The development will also improve health care access to residents in the community and region. The project will effectively utilize the Hamilton Crossing, which is an historic mill complex located within the Lowell National Historic Park and the Lowell Lock and Canals National Historic Landmark District. The mission of the Architectural Heritage Foundation is to restore the historic building in accordance with Department of the Interior standards.

The project will receive over \$60 million from non-federal sources and will create over 400 jobs. The area has been designated an Urban Revitalization Area by the state's Executive Office of Communities and Development, and the National Park Service has been a dedicated partner in this redevelopment effort.

Project Name: Union Crossing

Organization: Lawrence CommunityWorks

Amount Requested: \$1,000,000

Recipient Address:

Lawrence CommunityWorks
Our House Campus
168 Newbury St.
Lawrence, MA 01841

Explanation of Request: This project is a good use of taxpayer funds because Union Crossing is expected to produce approximately 200 new permanent jobs. This includes employees located in the commercial portion of the project and day care center, as well as the management and maintenance staff needed to support the residential, commercial and outdoor spaces. Union Crossing will also create an effective and innovative model for investing in older urban centers that combines best practices in both historic preservation and green building design to create a new neighborhood that is equitable, affordable and sustainable. If successful, this model could be replicated in other parts of the country.

Project Name: Lowell Memorial Auditorium Renovations

Organization: Lowell Memorial Auditorium

Amount Requested: \$5,000,000

Recipient Address:

Lowell Memorial Auditorium
50 E Merrimack Street
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because the requested funding will be used for needed renovations to the Lowell Memorial Auditorium. As a result of decades of heavy use, the auditorium is badly in need of repairs, renovations and facility upgrades. The auditorium plays host to more than 200 cultural, civic and community events each year, which draw more than 250,000 people through its doors annually. The economic impact that the auditorium provides to the surrounding area is substantial. Originally constructed in 1922 via an act of the United States Congress, The Lowell Auditorium is a national treasure that pays fitting tribute to veterans of all wars. On its exterior facade, and within its walls, it tells the many stories of the brave men and women who have sacrificed for our nation. The auditorium also serves as a location for many veterans' ceremonies, including annual Pearl Harbor Day and Memorial Day ceremonies.

Project Name: Next Generation Maglev

Organization: MagneMotion Inc.

Amount Requested: \$4,250,000

Recipient Address:

MagneMotion Inc.
139 Barnum Road
Devens, MA 01434

Explanation of Request: This project is a good use of taxpayer funds because it will advance the development of a viable domestic maglev by constructing a test facility that includes the key components needed to demonstrate performance and safety advantages of maglev with reduced energy consumption and lower cost for construction and operation. Maglev, or magnetic levitation, is a system of transportation that suspends, guides and propels vehicles, predominantly trains, using levitation from a very large number of magnets for lift and propulsion. This will be a continuation of present efforts with the objective of demonstrating higher speeds and more functionality. A full scale test track can be used to demonstrate the efficiency and cost advantage of the technology and lead to nationwide adoption of the technology for a wide range of applications and operating speeds. For four decades various U.S. Government agencies have funded conceptual maglev development that has produced excellent ideas, but no funding for a full scale test facility. The most populous countries in the world are all funding high speed ground transportation initiatives and if the U.S. does not provide major funding for Next Generation Maglev we will forever be beholden to other countries for maglev.

Project Name: Methuen Rotary Interchange Reconfiguration Project

Organization: Massachusetts Highway Department

Amount Requested: \$1.5 million

Recipient Address:

Massachusetts Highway Department

Environmental Services Division
10 Park Plaza, Room 4260
Boston, MA 02116

Explanation of Request: This project is a good use of taxpayer funding because the requested funds would be used to improve safety and reduce congestion at the Exit 46 interchange on I-93 in the City of Methuen, Massachusetts. On an average day, I-93 in the vicinity of the Exit 46 interchange carries between 110,000 and 130,000 that would directly benefit from this project. This project would improve interstate mobility by improving a major highway connection between Massachusetts and New Hampshire at a location close to the border between the two states. Numerous businesses, commuters, and residents would benefit from this project both locally and regionally.

Project Name: Study and Design Review for the Boston and Maine Railroad Depot (Rialto building)

Organization: Middlesex Community College

Amount Requested: \$750,000

Recipient Address:

Middlesex Community College
33 Kearney Square
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because the project will revitalize an historically important building, the Rialto, which is in disrepair and has remained vacant due to the significant amount of rehabilitation needed. The study, design and ultimate rehabilitation of the depot building which was constructed in the late 1800s is necessary to preserve this high Victorian Gothic style building which once served as Boston and Maine Railroad's Central Street depot for the city of Lowell. The revitalization of this historic building is expected to contribute to improvements in the Jackson-Appleton-Middlesex (JAM) area of downtown Lowell, and contribute to the overall improvement of the adjacent Hamilton Canal district revitalization. The project will accommodate a planned expansion of the college's downtown Lowell academic programs to meet the need of the college's rising enrollments and will include needed community space that will be made available to the public.

Project Name: Lancaster School and Campus Center Construction Project

Organization: Robert F. Kennedy Children's Action Corps

Amount Requested: \$250,000

Recipient Address:

Robert F. Kennedy Children's Action Corps
11 Beacon Street, Suite 200
Boston, MA 02108

Explanation of Request: This project in Lancaster, MA is a good use of taxpayer funds because the funding will be used to construct new facilities at the RFK Children's Action Corps Lancaster School and Campus Center, which will result in expanded operations and services for children. The project will create an estimated 200 new construction jobs in the Lancaster area for at least two years. RFK continues to build strong programming to continually nurture and

support children and their families. RFK strives to disseminate knowledge and best practices throughout the country as a member of the Child Welfare League of America. The work done at the campus directly helps children, and informs the larger national child welfare field.

Project Name: UTEC New Youth Center Building Project

Organization: United Teen Equality Center

Amount Requested: \$1,000,000

Recipient Address:

United Teen Equality Center
34 Hurd Street
Lowell, MA 01852

Explanation of Request: This project is a good use of taxpayer funds because this new construction will provide free, accessible after school, educational and workforce development activities for Lowell's older teens, particularly those teens most at risk for gang-involvement and youth violence. The objective is to expand programming to both prevent and intervene in youth violence, while also expanding workforce development training in areas such as green jobs training and transitional employment. Also, their new addition will be the first "green" public building in Lowell which can serve as a catalyst for more green development throughout the City, providing green jobs and sustainable energy production for the county. The expansion of the youth center will lead to the creation of the Streetworker Institute, a learning community and clearinghouse of best practices in street outreach, conflict mediation and gang peacemaking, based on UTEC's successes, lessons learned, and scientific evaluation. This information will help to create a national curriculum for street outreach and prevention and intervention of gang violence which will benefit these efforts in communities like Lowell across the country.

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